

General

Title

Acute respiratory failure: percentage of unplanned extubations.

Source(s)

Quality indicators in critically ill patients. Madrid (Spain): Spanish Society of Intensive and Critical Care and Units Coronary (SEMICYUC); 2011. 185 p.

Measure Domain

Primary Measure Domain

Clinical Quality Measures: Outcome

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the percentage of unplanned extubations.

Rationale

The aim of intensive care medicine is to provide critical patients with the healthcare that they need, ensuring the quality and safety of care. Intensive care medicine is one of the principal components of modern healthcare systems. There is an increasing demand for this resource, which involves high costs.

The quality of care has gradually come to be the central focus of healthcare, and in recent years patient safety has come to represent one of the key aspects of quality. In the case of intensive care medicine, this interest in quality is even more evident, not only because of its social and economic impact, but also because some of the dimensions involved in the quality of care of critical patients take on greater importance: critical patients are more vulnerable, access to critical care is more limited so efforts to distribute resources equitably are more important, scant scientific evidence is available, and the efficiency is limited.

Unplanned extubation is associated with a high rate of reintubation and with increased risk of nosocomial pneumonia and death.

Evidence for Rationale

Bouza C, Garcia E, Diaz M, Segovia E, Rodriguez I. Unplanned extubation in orally intubated medical patients in the intensive care unit: a prospective cohort study. *Heart Lung*. 2007 Jul-Aug;36(4):270-6. [PubMed](#)

Chang LY, Wang KW, Chao YF. Influence of physical restraint on unplanned extubation of adult intensive care patients: a case-control study. *Am J Crit Care*. 2008 Sep;17(5):408-15; quiz 416. [PubMed](#)

Curry K, Cobb S, Kutash M, Diggs C. Characteristics associated with unplanned extubations in a surgical intensive care unit. *Am J Crit Care*. 2008 Jan;17(1):45-51; quiz 52. [PubMed](#)

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Tanios MA, Epstein SK, Livelio J, Teres D. Can we identify patients at high risk for unplanned extubation? A large-scale multidisciplinary survey. *Respir Care*. 2010 May;55(5):561-8. [PubMed](#)

Primary Health Components

Acute respiratory failure; unplanned extubations

Denominator Description

Total number of days of intubation (see the related "Denominator Inclusions/Exclusions" field)

Numerator Description

Number of unplanned extubations (see the related "Numerator Inclusions/Exclusions" field)

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Additional Information Supporting Need for the Measure

Unspecified

Extent of Measure Testing

Unspecified

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Emergency Department

Emergency Medical Services

Hospital Inpatient

Intensive Care Units

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Single Health Care Delivery or Public Health Organizations

Statement of Acceptable Minimum Sample Size

Unspecified

Target Population Age

Age greater than or equal to 18 years

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health

Care

National Quality Strategy Aim

Better Care

National Quality Strategy Priority

Making Care Safer

Prevention and Treatment of Leading Causes of Mortality

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Getting Better

IOM Domain

Effectiveness

Safety

Data Collection for the Measure

Case Finding Period

Unspecified

Denominator Sampling Frame

Patients associated with provider

Denominator (Index) Event or Characteristic

Institutionalization

Therapeutic Intervention

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions

Total number of days of intubation

Population: All days of intubation in patients who require invasive mechanical ventilation through an endotracheal tube during the period reviewed.

Exclusions

Unspecified

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions

Number of unplanned extubations

Note: Unplanned extubation includes:

Accidental extubation: Unforeseen or undesired extubation caused by malfunctioning of the tube itself (obstruction or breakage of the inflator cuff) or by inappropriate maneuver by professionals.

Self-extubation: Unforeseen or undesired extubation caused by the patient's own actions.

Exclusions

Unspecified

Numerator Search Strategy

Institutionalization

Data Source

Electronic health/medical record

Paper medical record

Type of Health State

Adverse Health State

Instruments Used and/or Associated with the Measure

Unspecified

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Desired value is a lower score

Allowance for Patient or Population Factors

not defined yet

Standard of Comparison

not defined yet

Prescriptive Standard

Standard: 15 episodes x 1000 days mechanical ventilation (MV)

Note: The reported incidence ranges from 3% to 14% of MV patients.

Evidence for Prescriptive Standard

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Identifying Information

Original Title

Unplanned extubation.

Measure Collection Name

Quality Indicators in Critically Ill Patients

Measure Set Name

Acute Respiratory Failure

Submitter

Spanish Society of Intensive and Critical Care and Units Coronary - Clinical Specialty Collaboration

Developer

Spanish Society of Intensive and Critical Care and Units Coronary - Clinical Specialty Collaboration

Funding Source(s)

Boehringer Laboratories

Composition of the Group that Developed the Measure

Work Group for Acute Respiratory Failure

Guillermo Muñiz Albaiceta
José Manuel Añón Elizalde
Federico Gordo Vidal

Scientific Coordination:

Maria Cruz Martín Delgado
Jesús Blanco Varela
Lluís Cabré Pericas
Pedro Galdos Anuncibay
Federico Gordo Vidal

Financial Disclosures/Other Potential Conflicts of Interest

Unspecified

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2011 Mar

Measure Maintenance

Unspecified

Date of Next Anticipated Revision

2016 Jul

Measure Status

This is the current release of the measure.

The measure developer reaffirmed the currency of this measure in May 2016.

Measure Availability

Source available in [English](#) and [Spanish](#) from the Spanish Society of Intensive and Critical Care and Units Coronary (SEMICYUC) Web site.

For more information, contact SEMICYUC at Paseo de la Reina Cristina, 36, 4º D, Madrid, Spain; Phone: +34-91-502-12-13; Fax: +34-91-502-12-14; Web site: www.semicyuc.org; E-mail: secretaria@semicyuc.org.

NQMC Status

This NQMC summary was completed by ECRI Institute on December 10, 2013. The information was verified by the measure developer on February 6, 2014.

The information was reaffirmed by the measure developer on May 10, 2016.

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Production

Source(s)

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